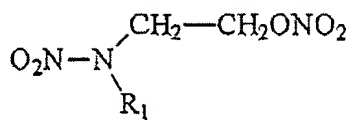


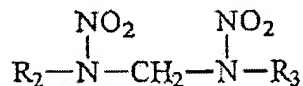
**IN THE CLAIMS:**

Claims 1-13 (canceled).

14. (Previously presented) High energetic material with layered grain structure, comprising a green powder which is unprocessed nitrocellulose powder and into which is introduced a high energy plasticizer and a polymeric deterrent, wherein the high-energy plasticizer has the structure I or II, wherein  $R_1 = C_1-C_{10}$ -alkyl,  $C_1-C_{10}$ -alkoxy or aryl,  $R_2$  and  $R_3$  independently of each other is  $C_1-C_5$ -alkyl or  $C_1-C_5$  alkoxy and is used in amounts of 5-20% relative to the green powder[.]:

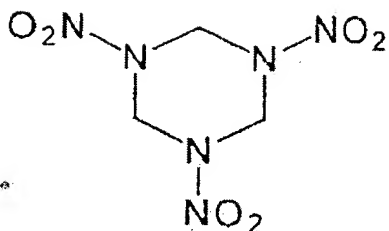


(I)

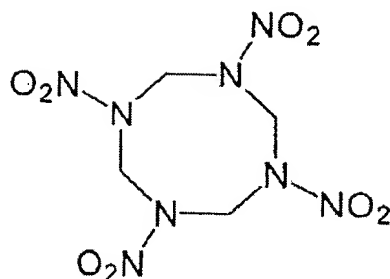


(II)

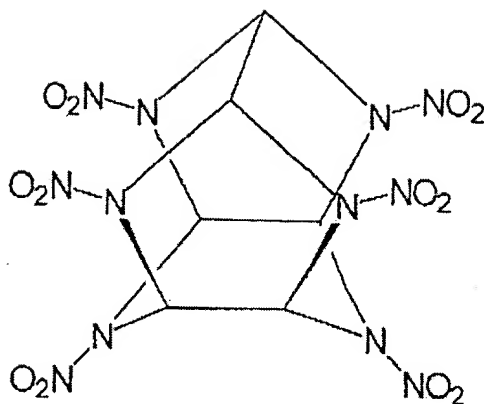
15. (Previously presented) A high-energetic material according to claim 14, characterized in that the green powder is produced by extruding a solvent-containing dough of nitrocellulose, wherein the solvent-containing dough contains at least one compound of the structures IV, V, or VI, which at least one compound comprises 10-60% of the dough (on a dry basis) wherein the formula of structures IV, V or VI are as follows:



(IV)



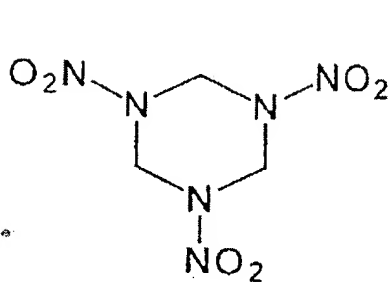
(V)



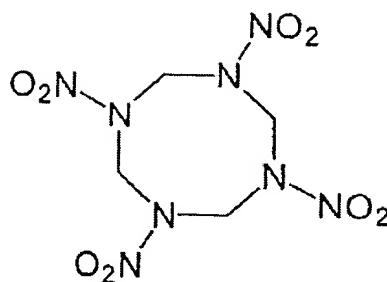
(VI)

16. (Previously presented) A green grain for producing a functional high-energetic material with layered grain structure, containing a high-energy plasticizer and a polymeric deterrent, wherein the green grain is formed by extruding a solvent-containing dough of nitrocellulose, characterized in that the solvent containing dough comprises at

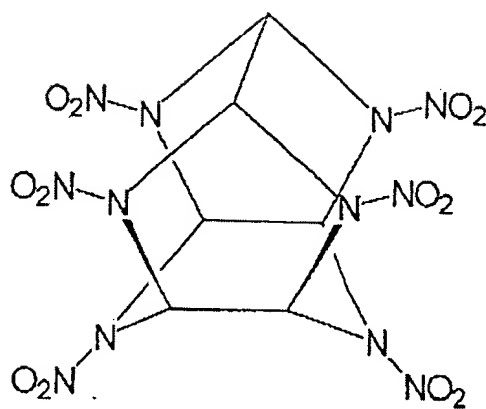
least one compound with the structure IV, V or VI and which comprise 10-60 % of the dough (dry basis)



(IV)



(V)



(VI)

17. (Previously presented) A propellant powder comprising a high-energetic material in accordance with claim 14.

18. (Previously presented) Ammunition comprising a propellant powder according to claim 17.

19. (Previously presented) A method for producing a functional, high-energetic material having a layered grain structure and containing an energetic plasticizing agent and a polymeric desensitizing agent, comprising the steps of:

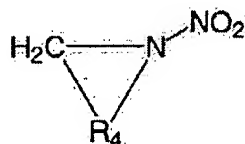
- a) providing an energetic plasticizing agent in the form of a solution or in the form of an emulsion comprising water;
- b) providing a polymeric desensitizing agent in the form of a solution or in the form of an emulsion comprising water;
- c) providing a receptive grain which will absorb an emulsion,
- d) diffusing at least one emulsion comprising said energetic plasticizing agent or said polymeric desensitizing agent into the receptive grain to produce the layered grain structure.

20. (Previously Presented) A method according to claim 19, wherein the receptive grain comprises at least 80% nitrocellulose with a nitrogen content of 11-13.5%.

21. (Previously Presented) A method according to claim 19, wherein the receptive grain has a cylindrical structure with a diameter to length ratio of between 0.5 and 2.0, an outside diameter between 0.5 and 10 mm and contains at least one hole.

22. (Previously Presented) A method according to claim 21, wherein said at least one hole has a hole diameter between 0.03 and 0.7 mm.

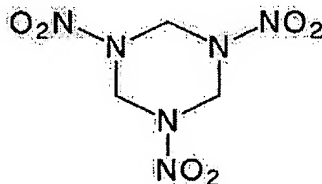
23. (Previously Presented) A method according to claim 19, which further comprises producing the receptive grain by compressing a solvent-containing powder dough of nitrocellulose in a molding press or by extruding it, wherein the solvent-containing powder dough contains at least one substance with the general structure



(III)

wherein  $\text{R}_4 = (-\text{CH}_2-\text{N}-\text{NO}_2)_n$  and  $n = 2$  or  $3$ , wherein said at least one substance is present in an amount of 5-80% based on a dry weight of the powder dough.

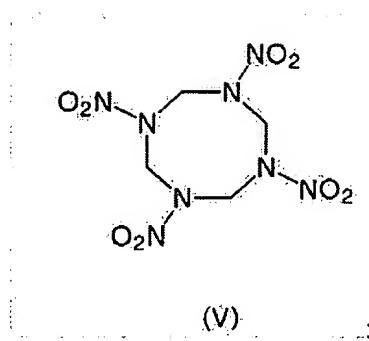
24. (Previously Presented) A method according to claim 23, wherein said at least one substance has a structure selected from the group consisting IV, V and VI, wherein IV is



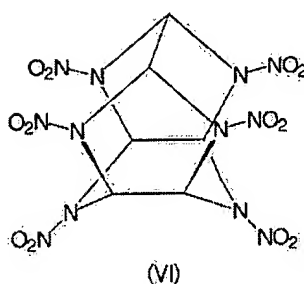
(IV)

;

wherein V is



and wherein VI is



and wherein the said at least one substance is present in the absorbent grain in an amount which is between 10-60%.

25. (Previously Presented) A method according to claim 19, wherein a diffusion depth of at least one of said energetic plasticizing agent or said polymeric desensitizing agent in the receptive grain is in the range of 100-500  $\mu\text{m}$ .

26. (Previously Presented) A method according to claim 19, further comprising the steps of:

- a) adding the high-energy plasticizing agent in an organic solvent to a mixture of receptive grains in water;
- b) admixing the desensitizing agent in water.

27. (Previously Presented) A method according to claim 26, wherein the adding of the high-energy plasticizing agent and the admixing of the desensitizing agent in water is undertaken at a temperature between 20-85°C.

28. (Previously Presented) A method according to claim 27, further comprising

- a) pre-soaking receptive grains in an organic solvent in a reactor;
- b) stirring during a period of 4-24 hours at a temperature of 20-85°C prior to adding the solution or emulsion of high-energy plasticizing agent, which is liquid at room temperature.

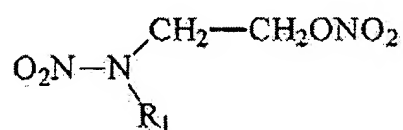
29. (Previously Presented) A method according to claim 26, wherein the receptive grains are placed into 1 to 5 times the amount by weight of water.

30. (Previously Presented) A method according to claim 26, which is conducted in a reactor tank, wherein after the step of admixing the desensitizing agent,

- a) the pressure in the reactor tank is reduced to 400-800 mbar during a period of 2-6 hours to allow liquid components to drain out through a strainer in a bottom of the reactor tank and
- b) a resulting powder mass is dried with warm air.

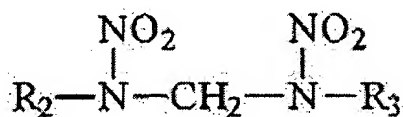
31. (Previously Presented) A method according to claim 30, wherein, after drying the resulting powder mass, 0.01-2% graphite is added in a polishing drum to the powder mass to obtain a bulk propellant powder with a bulk density > 1000 g/l.

32. (Previously Presented) A method according to claim 19, wherein the high-energy plasticizing agent is selected from the group consisting of nitroglycerine, diethylene glycol dinitrate, a substance with the structure



(I)

and a substance with the structure

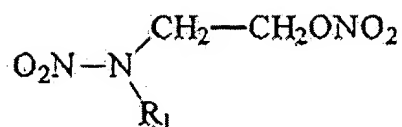


(II)

wherein  $\text{R}_1 = \text{C}_1\text{-C}_{10}\text{-alkyl}$ ,  $\text{C}_1\text{-C}_{10}\text{-alkoxy}$  or aryl,  $\text{R}_2$  and  $\text{R}_3$  independent of each other  $\text{C}_1\text{-C}_5\text{-alkyl}$  or  $\text{C}_1\text{-C}_5\text{-alkoxy}$  and wherein the energizing plasticizing agent is used in amounts of 5-20% relative to the receptive grains.

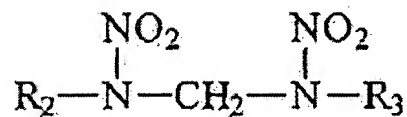
33. (Previously Presented) A method according to claim 32, characterized in that the high-energy plasticizing agent is selected from the group consisting of the structure.





(I)

and



(II)

with  $\text{R}_1 = \text{C}_1\text{-C}_4$  alkyl, methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, or t-butyl, and with  $\text{R}_2$  and  $\text{R}_3$  independent of each other being  $\text{C}_1\text{-C}_2$  (alkyl).

34. (Previously Presented) A method according to claim 1, characterized in that the polymeric desensitizing agent is an organic ether or ester compound with a molecular weight of between 100-100,000.

35. (Previously Presented) The method of Claim 33, wherein each of  $\text{R}_2$  and  $\text{R}_3$  is independently methyl or ethyl.

36. (Previously Presented) The method of Claim 33, wherein  $\text{R}_1$  is alkyl, methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, or t-butyl.

37. (Previously Presented) The method of Claim 35 wherein R<sub>1</sub> is alkyl, methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, or t-butyl.--